

Remarks

Applicants thank the Examiner for the careful examination of this application and the clear explanation of the rejections.

The amended title conforms to the claimed matter.

The new claims obviate the rejections under 35 USC 102 and 103. The new claims "particularly point out and distinctly claim the subject matter the applicant regards as his invention."

New claim 38 defines a digital wireless mobile communications device.

An antenna receives analog, direct sequence spread spectrum wireless signals.

Analog circuitry has an input connected to the antenna and has an analog signal output.

Analog-to-digital converter circuitry has an input connected to the analog signal output and has a digital signal output.

Communications bus leads are connected to the digital signal output.

Memory circuitry is connected to the communications bus leads and provides storage locations.

Unit control circuitry has inputs and outputs connected to the communications bus leads. The unit control circuitry writes into partitioned memory storage locations groups of independent hypothesis information, one group for each partitioned memory storage location. The unit control circuitry reads from each partitioned storage location a result of detection of direct sequence spread spectrum wireless signals.

Searcher circuitry is connected to the communications bus leads. The searcher circuitry includes search engine circuitry of a certain number of independent correlators, in which the certain number is two or more.

Hypothesis generator circuitry is coupled to the communications bus leads and to the correlators. The hypothesis generator circuitry reads each of the groups of independent hypothesis information from the memory circuitry and supplies an independent hypotheses to each of the independent correlators. The number of hypotheses read from the memory and supplied to the correlators is equal to or less than the certain number.

Sequence generator circuitry is coupled to the hypothesis generator circuitry and the correlators. The sequence generator circuitry receives the hypotheses from the hypothesis generator and supplies a pseudo-random number sequence to each of the correlators.

There are control information storage locations, one for each correlator, coupled to the correlators.

There are scratch memory storage locations, one for each correlator, coupled to the correlators.

Result processor circuitry is coupled to and receives a result from each correlator. The result processor circuitry tests an accumulation of the results from the correlators against a threshold, and stores at a partitioned storage location in the memory an accumulated result exceeding the threshold.

In contrast, US publication 2003/0,012,312 to Gerhards discloses:

[0016] In accordance with another aspect of the invention, there is provided a computer readable medium for providing codes for directing a processor circuit to search for a predefined code in a bit stream. **The codes direct the processor circuit to initiate a first search** for the position of the predefined code by applying the reference code at multiple times or phases to the received bit stream containing the pre-defined code according to a first resolution to produce a first set of correlation values and associated times. **Then, the processor circuit is directed to initiate a second search**, at the same resolution, to produce a second set of correlation values and associated times, **the starting point for the second search being offset in time from a maximal correlation of the first set of correlation values by a defined interval**, and the reference code being applied at times other than those searched in the first search. The processor circuit is also directed to select out of the first and second sets of data maximal correlation values for use in calculating the strength or the sought pre-defined code in the received bit stream at maximally likely positions. Emphasis supplied

The Gerhard publication thus teaches conducting two searches, the second after the first with the second using information detected in the first search to conduct the second search.

New claim 38 distinguishes over the Gerhard publication with the limitations of a digital wireless mobile communications device, comprising: an antenna for receiving analog, direct sequence spread spectrum wireless

signals; analog circuitry having an input connected to the antenna and having an analog signal output; analog-to-digital converter circuitry having an input connected to the analog signal output and having a digital signal output; communications bus leads connected to the digital signal output; memory circuitry connected to the communications bus leads and providing storage locations; unit control circuitry having inputs and outputs connected to the communications bus leads, the unit control circuitry writing into partitioned memory storage locations groups of independent hypothesis information, one group for each partitioned memory storage location, and reading from each partitioned storage location a result of detection of direct sequence spread spectrum wireless signals; and searcher circuitry connected to the communications bus leads, the searcher circuitry including: search engine circuitry of a certain number of independent correlators, in which the certain number is two or more; hypothesis generator circuitry coupled to the communications bus leads and to the correlators, the hypothesis generator circuitry reading each of the groups of independent hypothesis information from the memory circuitry and supplying an independent hypotheses to each of the independent correlators, the number of hypotheses read from the memory and supplied to the correlators being equal to or less than the certain number; sequence generator circuitry coupled to the hypothesis generator circuitry and the correlators, and receiving the hypotheses from the hypothesis generator and supplying a pseudo-random number sequence to each of the correlators; control information storage locations, one for each correlator, coupled to the correlators; scratch memory storage locations, one for each correlator, coupled to the correlators; and result processor circuitry coupled to and receiving a result from each correlator, the result processor circuitry testing an accumulation of the results from the correlators against a

threshold, and storing at a partitioned storage location in the memory an accumulated result exceeding the threshold.

Claim 38 stands allowable.

Additional independent claim 39 distinguishes over the Gerhard publication with the limitations of a process of detecting direct sequence spread spectrum wireless signals in a digital wireless mobile communications device, comprising: receiving direct sequence spread spectrum wireless signals in an antenna; converting the signals into digital information; placing groups of independent hypotheses in partitioned portions of a memory with a mobile control unit with one independent hypothesis in each partitioned portion of the memory; operating search circuitry to: read the groups of independent hypotheses from the memory; generate a pseudo-random number from each hypothesis; and operate correlator circuits using the independent hypotheses, pseudo-random numbers and digital information to produce results of detections, including operating the correlator circuits in parallel, each correlator circuit using one hypothesis, one pseudo-random number, and one portion of the digital information together with one control information storage space, and one scratch memory storage space; testing accumulations of the results against a threshold; and placing an accumulated result that exceeds the threshold in a partitioned portion of the memory corresponding to a hypothesis that produced the result.

The application is in allowable form and the claims distinguish over the cited references. Applicants respectfully request reconsideration or further examination of this application.

Respectfully Submitted,

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